

CLAIM AMENDMENTS

Please replace all prior versions of the claims with the following listing of the revised claims.

1. (currently amended) A dilation catheter comprising:
an elongate catheter body with at least one lumen; and
a medical balloon disposed about a portion of the elongate catheter body in fluid communication with the lumen, the medical balloon comprising:
a proximal region and a distal region;
a balloon working length intermediate the proximal region and the distal region;
~~a proximal taper-to-neck transition and a proximal working length-to-taper transition that define the proximal region;~~
~~a distal taper-to-neck transition and a distal working length-to-taper transition that define the distal region;~~
wherein ~~at least one transition of the proximal taper-to-neck transition, the proximal working length-to-taper transition, the distal taper-to-neck transition, and the distal working length-to-taper transition comprises a radius greater than 0.127 mm~~
before inflation from:
0.97 to 3.3 mm when the balloon has a diameter of about 3 mm,
1.8 to 4.7 mm when the balloon has a diameter of about 4 mm,
2.4 to 6.4 mm when the balloon has a diameter of about 5 mm,
3.5 to 8.3 mm when the balloon has a diameter of about 6 mm,
4.8 to 10.2 mm when the balloon has a diameter of about 7 mm,
6.2 to 11.4 mm when the balloon has a diameter of about 8 mm,
6.7 to 13.3 mm when the balloon has a diameter of about 9 mm,
8.1 to 15.2 mm when the balloon has a diameter of about 10 mm,
9.1 to 17.1 mm when the balloon has a diameter of about 11 mm,
9.9 to 19.1 mm when the balloon has a diameter of about 12 mm,
11.2 to 22.9 mm when the balloon has a diameter of about 14 mm, and
13.3 to 25.4 mm when the balloon has a diameter of about 15 mm.

2. (canceled).

3. (original) The dilation catheter of claim 1, where the radius is from:

1.3 to 3.3 mm when the balloon has a diameter of about 3 mm,
2.5 to 4.7 mm when the balloon has a diameter of about 4 mm,
3.2 to 6.4 mm when the balloon has a diameter of about 5 mm,
4.7 to 8.3 mm when the balloon has a diameter of about 6 mm,
6.4 to 10.2 mm when the balloon has a diameter of about 7 mm,
8.3 to 11.4 mm when the balloon has a diameter of about 8 mm,
8.9 to 13.3 mm when the balloon has a diameter of about 9 mm,
10.8 to 15.2 mm when the balloon has a diameter of about 10 mm,
12.1 to 17.1 mm when the balloon has a diameter of about 11 mm,
13.3 to 19.1 mm when the balloon has a diameter of about 12 mm,
14.9 to 22.9 mm when the balloon has a diameter of about 14 mm, and
17.8 to 25.4 mm when the balloon has a diameter of about 15 mm.

4. (original) The dilation catheter of claim 1, where the radius is:

about 2.5 mm when the balloon has a diameter of about 3 mm,
about 3.2 mm when the balloon has a diameter of about 4 mm,
about 4.7 mm when the balloon has a diameter of about 5 mm,
about 6.4 mm when the balloon has a diameter of about 6 mm,
about 8.3 mm when the balloon has a diameter of about 7 mm,
about 8.9 mm when the balloon has a diameter of about 8 mm,
about 10.8 mm when the balloon has a diameter of about 9 mm,
about 12.1 mm when the balloon has a diameter of about 10 mm,
about 13.3 mm when the balloon has a diameter of about 11 mm,
about 14.9 mm when the balloon has a diameter of about 12 mm,
about 17.8 mm when the balloon has a diameter of about 14 mm, and
about 19.1 mm when the balloon has a diameter of about 15 mm.

5-11. (canceled).

12. (currently amended) The dilation catheter of claim 1, where the ~~distal taper-to-neck~~ proximal working length-to-taper radius is substantially equal to the a distal working length-to-taper radius.

13. (currently amended) The dilation catheter of claim 1, where the a proximal taper-to-neck radius, the proximal working length-to-taper radius, the a distal taper-to-neck radius, and the a distal working length-to-taper radius are substantially equal.

14. (currently amended) The dilation catheter of claim 1, where the a proximal taper-to-neck radius and the ~~proximal working length-to-taper radius~~ are substantially equal to each other, but different from the a distal taper-to-neck radius and the ~~distal working length-to-taper radius~~, which are substantially equal to each other.

15. (currently amended) The dilation catheter of ~~claim 1~~ claim 14, where the proximal working length-to-taper radius and the ~~proximal taper-to-neck radius~~ are different a distal working length-to-taper radius are different from the proximal taper-to-neck radius and the distal taper-to-neck radius.

16. (currently amended) The dilation catheter of claim 1, where the proximal working length-to-taper radius, the ~~proximal taper-to-neck radius~~, the and a distal working length-to-taper radius, and the ~~distal taper-to-neck radius~~ are all different.

17-21. (canceled).

22. A method of reducing the force required to remove a dilation catheter from a conduit, comprising:

(a) inserting the dilation catheter through the conduit, so a medical balloon disposed on the catheter emerges from the conduit, wherein the dilation catheter includes an elongate catheter body, the medical balloon comprising:

a proximal region and a distal region;
a balloon working length intermediate the proximal region and the distal region;
~~a proximal taper to neck transition and a proximal working length-to-taper transition that define the proximal region;~~
~~a distal taper to neck transition and a distal working length to taper transition that define the distal region;~~
wherein ~~at least one transition of the proximal taper to neck transition, the proximal working length-to-taper transition, the distal taper to neck transition, and the distal working length-to-taper transition~~ comprises a radius greater than 0.127 mm before inflation from:

0.97 to 3.3 mm when the balloon has a diameter of about 3 mm,

1.8 to 4.7 mm when the balloon has a diameter of about 4 mm,

2.4 to 6.4 mm when the balloon has a diameter of about 5 mm,

3.5 to 8.3 mm when the balloon has a diameter of about 6 mm,

4.8 to 10.2 mm when the balloon has a diameter of about 7 mm,

6.2 to 11.4 mm when the balloon has a diameter of about 8 mm,

6.7 to 13.3 mm when the balloon has a diameter of about 9 mm,

8.1 to 15.2 mm when the balloon has a diameter of about 10 mm,

9.1 to 17.1 mm when the balloon has a diameter of about 11 mm,

9.9 to 19.1 mm when the balloon has a diameter of about 12 mm,

11.2 to 22.9 mm when the balloon has a diameter of about 14 mm, and

13.3 to 25.4 mm when the balloon has a diameter of about 15 mm;

(b) inflating the balloon by providing a fluid to a catheter lumen in fluid communication with the balloon;

(c) deflating the balloon; and

(d) applying a force to the dilation catheter, so the balloon is ~~removed from~~ withdrawn through the conduit.

23. (canceled).

24. The method of claim 22, where the radius is from:

1.3 to 3.3 mm when the balloon has a diameter of about 3 mm,
2.5 to 4.7 mm when the balloon has a diameter of about 4 mm,
3.2 to 6.4 mm when the balloon has a diameter of about 5 mm,
4.7 to 8.3 mm when the balloon has a diameter of about 6 mm,
6.4 to 10.2 mm when the balloon has a diameter of about 7 mm,
8.3 to 11.4 mm when the balloon has a diameter of about 8 mm,
8.9 to 13.3 mm when the balloon has a diameter of about 9 mm,
10.8 to 15.2 mm when the balloon has a diameter of about 10 mm,
12.1 to 17.1 mm when the balloon has a diameter of about 11 mm,
13.3 to 19.1 mm when the balloon has a diameter of about 12 mm,
14.9 to 22.9 mm when the balloon has a diameter of about 14 mm, and
17.8 to 25.4 mm when the balloon has a diameter of about 15 mm.

25. The method of claim 22, where the radius is:

about 2.5 mm when the balloon has a diameter of about 3 mm,
about 3.2 mm when the balloon has a diameter of about 4 mm,
about 4.7 mm when the balloon has a diameter of about 5 mm,
about 6.4 mm when the balloon has a diameter of about 6 mm,
about 8.3 mm when the balloon has a diameter of about 7 mm,
about 8.9 mm when the balloon has a diameter of about 8 mm,
about 10.8 mm when the balloon has a diameter of about 9 mm,
about 12.1 mm when the balloon has a diameter of about 10 mm,
about 13.3 mm when the balloon has a diameter of about 11 mm,
about 14.9 mm when the balloon has a diameter of about 12 mm,
about 17.8 mm when the balloon has a diameter of about 14 mm,
and about 19.1 mm when the balloon has a diameter of about 15 mm.

26. (canceled).